Office Action dated: 10/06/2005

Response to Office Action dated: 01/17/06

AMENDMENTS TO THE SPECIFICATION

Please amend the following paragraphs of the Specification as indicated:

[0009] An invention concerning claim 1An embodiment of this application invention is provided with a cylinder head having a cooling water pipe inside, wherein the cooling water pipe is inserted and has outlet openings respectively placed in a position around a fuel injection nozzle and in a position between ports.

4-unlike the cylinder head described in the Japanese laid-open Patent Application 2000-170600 in which no outlet opening of the cooling water pipe is provided in the position around the fuel injection nozzle, the position around the fuel injection nozzle and the position between the ports can be simultaneously and efficiently cooled. Furthermore, providing the cooling water pipe with the outlet openings which are respectively placed between respective pairs of the adjoining ports for example, it is possible for one cooling water pipe to cool not only the position between a pair of adjoining exhaust ports but also the position between the exhaust port and the intake port adjoining each other. That is, the structure becomes simpler and thus the production becomes easier than the cylinder head described in the Japanese laid-open Patent Application 2000-170600 which requires two or more cooling water pipes to cool each position between adjoining ports of two or more pairs of ports.

[0012] Moreover, an <u>embodiment of the invention concerning claim 2</u> is such that the cooling water pipe extends from an inlet opening to the outlet opening without passing through a valve seat.

[0013] As mentioned above, in the cylinder head described in the Japanese laid-open Patent Application 2000-170600, the cooling water passage is defined in the valve seat and the cooling water pipe is extended therefrom. Therefore, in the valve seat of the cylinder head described in the Japanese laid-

Serial No. 10/510,558

Office Action dated: 10/06/2005

Response to Office Action dated: 01/17/06

open Patent Application 2000-170600, a positioning for precisely fitting with the valve and a positioning for precisely fitting with the cooling water pipe are necessary. That is, in the cylinder head described in the Japanese laid-open Patent Application 2000-170600, there is a possibility that the valve does not precisely sit on the valve seat if it is intended to prevent a leak of the cooling water from a connection part between the valve seat and the cooling water pipe. In view of this problem, in the cylinder head as defined in claim 2, the cooling water pipe extends from the inlet opening to the outlet opening without passing through the valve seat. Therefore, the problem involved in the cylinder head described in the Japanese laid-open Patent Application 2000-170600 can be avoided.

[0014] As described above, according to the invention as defined in claim 2, the problem involved in the cylinder head described in the Japanese laid-open Patent Application 2000-170600 that the positioning for precisely fitting with the valve and the positioning for precisely fitting with the cooling water pipe are required for the valve seat can be avoided.

[0015] Moreover, an <u>embodiment of the</u> invention as defined in claim 3 is such that the cooling water pipe is made of aluminum.

[0016] In the cylinder head as defined in claim 3, In such an embodiment, the cooling water pipe made of aluminum is inserted in the cylinder head. Therefore, compared with the case that the cooling water pipe made of another material is inserted, the cooling water pipe easily melts into the cylinder head. That is, it can be prevented that the cooling water pipe inserted dissociates from the cylinder head.

[0019] As described above, according to the invention as defined in claim 3, the cooling water pipe made of aluminum easily melts into the cylinder head, compared with the case that the cooling water pipe made of another material is inserted. That is, it can be prevented that the cooling water pipe inserted dissociates from the cylinder head.